Abstract Submitted
for the DPP12 Meeting of
The American Physical Society

The effects of pre-plasma scale length and laser intensity on hot electron divergence[1] V.M. OVCHINNIKOV, D.W. SCHUMACHER, M. MCMAHON, R.R. FREEMAN, The Ohio State University — We report on a numerical study of the effects of pre-plasma scale length and laser intensity on the hot electron divergence angle using full-scale 2D3V LSP PIC simulations including a self-consistent laser-plasma interaction (LPI) and photoionization. Our simulations show that the fast electron ($\geq$1 MeV) divergence angle increases almost linearly with the pre-plasma scale length for a fixed laser intensity while the laser intensity has little effect on the divergence angle in the range between 10^{18} and 10^{21} W/cm^2 for a fixed pre-plasma scale length.

[1]This work was performed with support from DOE under contracts DE-FG02-05ER54834 and DE-AC52-07NA27344, and allocations of computing time from the Ohio Supercomputer Center and the Lawrence Livermore National Laboratory Computing Grand Challenge program.

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Date submitted: 17 Jul 2012 Electronic form version 1.4